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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,154	03/26/2002	Kjell Arne Ingebrigtsen	15-DS-00546	2728

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EXAMINER

PATEL, MAULIN M

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 04/01/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/063,154

Applicant(s)

INGEBRIGTSEN ET AL.

Examiner

Maulin Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspond nc address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 54-62 is/are allowed.
- 6) ☒ Claim(s) 1-6,9-44 and 51-53 is/are rejected.
- 7) ☒ Claim(s) 7,8 and 45-50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Gururaja '6467140'. Gururaja '140' teaches the claimed invention including a first active

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transducer layer (figure 1<sup>8A</sup>, reference 240) and a second active transducer layer (figure 1<sup>8A</sup> reference 242) and passive circuitry (column 6, lines 56-65).

Claims 1, 9-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Seyed-Bolorforosh et al. Seyed-Bolorforosh et al., teaches the claimed invention including a first active transducer layer (column 8-10) and a second active transducer layer (figure 1, and claims 1-5), passive circuitry (column 8-9), and switching circuitry (column 10, lines 30-56).

Claims 1 and 16-17, 43-44, and 51-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Hossack. Hossack teaches a ultrasound probe having a first layer connected to a first receiver (claims 1), a second layer connected to a second receiver (columns 6-7), and passive circuitry (columns 7-8), and switching circuitry (column 9, lines 11-30).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seyed-Bolorforosh et al., in view of Hossack. Seyed-Bolorforosh et al., teaches the claimed invention including a first active transducer layer (column 8-10) and a second

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active transducer layer (figure 1, and claims 1-5), passive circuitry (column 8-9), and switching circuitry (column 10, lines 30-56). Hossack teaches the first active transducer layer at least two of the elements are connected to focusing electronics that are separate and different from the focusing electronics connected to the second active transducer layer (columns 8-9). Accordingly, it would have been obvious to one of ordinary skill in the art at time the invention was made to provide the focusing means of Hossack with the transducer of Seyed-Bolorforosh et al., in order to accurately image a region of interest.

Claims 41-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gururaja '5410205' in view of Hossack. Gururaja '5410205' teaches a transducer array comprising N transducer elements wherein the active transducer layers are arranged to obtain frequency variable apodization across the array (claims 1-14). Hossack teaches passive circuitry for receiving focused energy from the different layers (columns 7-8). Accordingly, it would have been obvious to one of ordinary skill in the art at time the invention was made to provide the focusing means of Hossack with the transducer of Gururaja '205' for accurate ultrasound imaging.

#### ***Allowable Subject Matter***

Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 54-62 are allowed.

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hanafy et al., teaches a broadband phased array for use in ultrasound imaging.


Chen teaches making an ultrasound transducer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maulin Patel whose telephone number is 703-305-6933. The examiner can normally be reached on Mon - Fri, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on 703-308-3256. The fax phone numbers for the organization where this application or proceeding is assigned is 703-308-0758.



Maulin Patel  
March 22, 2003



Francis J. Jaworski  
Primary Examiner